

Phoenix-Goodyear Airport (PGA)/Western Avenue Plume Community Advisory Group (CAG) Meeting

Wednesday, January 22, 2003
6:30 p.m. to 8:30 p.m.
Goodyear Community Center
420 E. Loma Linda
Goodyear

DRAFT MINUTES

Members in attendance:

Diane Krone
Susan Kagan
Charles Bingham
Sam Wallick

Members absent:

Henri Gauthier
Jim Ewing
Jackie Ewing
Thomas Jones
Richard Nauman
Sheri Lauritano
Keith Longely

ADEQ Staff in attendance:

Tina Wesoloskie, Community Involvement Coordinator
Lou Minkler, ADEQ Project Manager

EPA Staff in attendance:

Andria Benner, EPA Project Manager
Viola Cooper, EPA Community Involvement Coordinator

Others in attendance:

Gary Mineer
Joel Wade
Bruce Travers
Cynthia Parker
Seth Kanter
Darryl Henning
David Day
Laurie LePat-Polasko
Teresa Harris
Esmie Avila
Paula Ilardo
Jerry Ellsworth
Jim Cavanaugh
Frank Cavalier
Brian Aiken
Anne Quigley
Laiz Indirarn

PIOU 03-227

The following matters were discussed, considered, and decided at the meeting:

1. *Welcome and Introductions*
Susan Kagan, CAG co-chair, opened the meeting. All ADEQ and EPA staff, CAG members and audience members introduced themselves. Ms. Wesoloskie introduced Viola Cooper as the new EPA Community Involvement Coordinator assigned to the site.
2. *Acceptance or Changes to the October 23, 2002 Draft Minutes*
The meeting did not reach quorum and therefore, no minutes were changed or approved. Meeting minutes will be voted on at the next CAG meeting if quorum is reached.
3. *Update on PGA South Chromium Treatment* - Lou Minkler, ADEQ Project Manager
The chromium treatment system was shut off last year. After the water was sent through the air stripper, the chromium in the effluent water was below the Aquifer Water Quality

Standards (AWQS). The Consent Decree states that as long as the effluent from the air stripper is below the AWQS, the chromium system can be dismantled. To illustrate the current situation, Ms. Minkler showed a map depicting the chromium plume in Subunit-C. The map utilizes data from July to December 2001.

Ms. Minkler also provided an update for the new extraction well for the trichloroethene (TCE) Subunit-C contamination at PGA South. The City of Goodyear is working with a new property owner to gain access to install the well. The new location will be about 600 feet away from the previous location where access could not previously be obtained.

One CAG member remarked she was concerned about the funding for this site. Ms. Minkler explained that this site is not affected by the Water Quality Assurance Revolving Fund (WQARF) budget concerns and is funded by Goodyear Tire and Rubber, the site's responsible party.

One audience member asked about why the emphasis has switched from perchlorate to chromium contamination. Ms. Minkler remarked that the emphasis has not switched. Ms. Minkler remarked that the perchlorate problem is at PGA North. No monitoring wells at the PGA South site have shown perchlorate contamination above four parts per billion (ppb). Ms. Minkler also clarified that the PGA North plume does not include chromium. Chromium only exists at the PGA South plume.

4. **Update on PGA North Activities -Andria Benner, EPA Project Manager*

Overview of the Extent of Groundwater Contamination

Ms. Benner reviewed the location of the Unidynamics facility and explained that the site is currently in a monitoring and investigation stage. The primary contaminants of concern at the PGA North site are TCE and perchlorate. Before presenting a cross-section graphic of the three upper groundwater units (A, B, and C), Ms. Benner showed several maps depicting the extent of the TCE and perchlorate contamination in Subunit-A, based on 2002 data. The perchlorate contamination in subunit A has been detected in two smaller plumes located near the northern part of the TCE plume and at the southeastern part of the TCE plume. The concentrations of most concern have been those at the Park Shadows area.

Overview of Events at Park Shadows Since October 2002

Ms. Benner explained that the Park Shadows residential complex was switched over to city water, a major event in the past couple of months. The Park Shadows domestic drinking water supply well is no longer in service due to perchlorate contamination. At the time of the last CAG meeting, hookup to the City of Goodyear drinking water was being considered because minimal, but increasing levels of perchlorate (ranging from 2.2 to 2.8 ppb) were detected in the domestic well. EPA had directed Crane to increase the monitoring of the domestic well to twice monthly.

Overview of Other Recent Activities

In September 2002, EPA signed an Explanation of Significant Difference (ESD) to restart the soil vapor extraction (SVE) system with a granular activated carbon (GAC) treatment

unit. In October 2002, Crane submitted a conceptual proposal for the perimeter soil gas investigation and in November 2002, perchlorate treatability studies began.

Overview of Recent Groundwater Investigation Activities

In October 2002, EPA, with support from an interagency group, completed at Phase II Source Area Groundwater Investigation Workplan and directed Crane to implement it. Because Crane did not proceed with the work, in January 2003, EPA plans to initiate the Phase II investigation to install a series of exploratory borings. In the interim, Crane has continued to conduct aquifer testing and pump tests at MW-20, located north of the Unidynamics facility on Van Buren Road. Crane also recently conducted a bromide tracer test at MW-20.

Park Shadows Detailed Discussion

Ms. Benner gave a detailed presentation on the Park Shadows historical well data. A map depicting the extent of the TCE and perchlorate contamination in Subunit-C in the vicinity of Park Shadows was shown. Ms. Benner stated that EPA is still unsure exactly how the groundwater contamination migrated to the southeast onto the Park Shadows property. Ms. Benner stated that in the last nine months, Crane ceased reinjecting the groundwater on the eastern boundary of the site to hopefully stop spreading the plume in that direction. Nearby conduit wells, which may be contributing to the southeast migration, are still being investigated. Ms. Benner showed a figure depicting a conceptual view of the depth of the Park Shadows wells. The Park Shadows irrigation well is completed into Subunit-C but screened from Subunit-A into Subunit-B/C (90 to 210 feet), a large screen interval for a well. The domestic well is completed just into Subunit-C at 240 to 255 feet. The nearby irrigation well, which was properly abandoned in September 2002, was not well constructed and could easily have been a conduit well.

EPA and ADEQ conducted a significant amount of outreach for the Park Shadows contamination. EPA and ADEQ held a series of workshops with the Park Shadows residents to discuss the perchlorate situation. A flyer was mailed in December and was sent to all of the Park Shadows residents. There was a low turnout for the workshops.

The domestic well was sampled periodically for TCE in 1981, 1982, 1984, 1988, 1994, 1995, 1996, 1997, 1998, 1999, and 2000. Beginning in 2001, the domestic well was also sampled quarterly for both TCE and perchlorate. Monthly monitoring started in July 2001, and twice monthly sampling began in August 2002 until the well was taken out of service in December 2002. On October 7, 2002, perchlorate was detected at 6.7 ppb. Perchlorate levels increased on November 13, 2002 to a range of 48 to 130 ppb. On November 26th, the levels were 13 to 20 ppb of perchlorate, and on December 3rd, the well was then taken out of service. Ms. Benner provided a graph of the perchlorate concentrations in the Park Shadows domestic well from January 25, 2001 to December 11, 2002 which showed that until October 2002, perchlorate levels were at 2.5 ppb or below.

MW-20 Contamination

Ms. Benner showed a graphic depicting a conceptual view of the extent of Subunit-C TCE contamination in the vicinity of MW-20 in 2002. MW-20 is the only monitoring well north of the facility completed in Subunit-C that is contaminated. Ms. Benner provided a graph of the TCE and perchlorate concentrations detected in MW-20 during the period of May 22, 2001 to January 8, 2003. In April 2001, there were trace levels of TCE detected in MW-20. The TCE increased to 200 ppb in November 2001, and a year later, TCE contamination is still prevalent in MW-20. The cause of the contamination is still unknown. This is why EPA is taking the lead on the Phase II groundwater investigation. EPA is not willing to wait another year to find out what is causing this problem.

Phase II Exploratory Soil Borings

Ms. Benner showed an aerial map of the locations of the proposed, temporary soil borings for the Phase II investigation. EPA will try to find the "backbone" of the plume. The groundwater flow direction in Subunit-C is not known for PGA North. Three to five soil borings will be installed along Van Buren Road (first transect). Based on those findings, a second transect will be completed south of the first transect. This is between the City of Goodyear building and the health center. Most of the drilling will be off to the west due to easier access. A third transect will be completed above the old operations area at the facility to help identify the major source areas on the property.

Perchlorate Treatability Study

The perchlorate treatment study started in August 2002. There have been three steps to the study: (1) bench scale tests completed on September 2nd; (2) detection limit studies completed on October 16th; and (3) pilot tests which started on December 5th. Full-scale treatment is still scheduled for March 2003.

Perimeter Soil Gas Investigation

This work plan is due on January 29th. A series of borings will be installed around the perimeter to determine if soil gas has migrated beyond the property boundary.

SVE System Startup

In followup to the ESD signed in September 2002 to restart the SVE system using carbon treatment, EPA ordered Crane to restart the system. Crane has not agreed to perform the work. Therefore, EPA plans to begin the startup testing in the Spring 2003.

Priority for Future Plans

EPA will investigate contaminant migration in the source area and install additional extraction and monitoring wells to control the migration and to gather data. The perchlorate treatability studies will be completed and treatment will begin in 2003. EPA

will start up the SVE system with GAC. The perimeter soil gas investigation will be conducted. EPA and ADEQ will continue to inform the community of any new information by conducting CAG meetings and sending fact sheets.

Perchlorate Treatment at the Goodyear Wastewater Treatment Plant (GWWTP) - Laurie LaPat-Polasko, Geomatrix Consultants

There are four reasons to treat the perchlorate at the GWWTP. This includes: (1) studies show wastewater can biodegrade perchlorate; (2) the sewer pipes and treatment system already exist; (3) the perchlorate is destroyed and not removed to another media; (4) cost effective. Ms. LaPat-Polasko explained how the microbes ingest the perchlorate and convert it to chloride and water.

The tests were designed to answer three questions: (1) Are perchlorate degraders present in the wastewater?; (2) If present, will the microorganisms biodegrade perchlorate to acceptable levels (4 ppb) within the required time period?; and (3) Will the wastewater treatment plant continue to biodegrade perchlorate under various conditions?

Bench Scale Test - Wastewater samples were “spiked” with perchlorate. The wastewater was then sent through autoclaving. Autoclave is a high-pressure cooker that kills the bacteria. This was done to prove the bacteria were eating the perchlorate and not by some other mechanism. The microbes degraded the perchlorate within hours.

Tracer Test - The plant itself was used for this test. A tracer (bromide) was used in this study. The bromide entered the wastewater treatment plant. This was to show the microbes were degrading the perchlorate and not some other compound. Perchlorate was treated below 4 ppb within 23 minutes. The first phase of the treatment is greater than four hours. The plant could treat up to 5000 ppb and still meet the effluent goal of 4 ppb. The potential maximum perchlorate influent concentration from PGA North is about 15 ppb.

Pilot Test - The pilot test consists of adding groundwater to the sewer system and slowly increasing the flow rate from 75 gallons per minute to 300 gallons per minute. The treatment plant influent and effluent will continue to be monitored.

Additional activities include finishing up the pilot test, long term perchlorate monitoring, and conducting a tracer test for the sewer line. The purpose of the tracer test for the sewer line is test for biodegradation in the sewer line. This is also to ensure the integrity of the sewer lines.

One staff member asked what is the potential exposure issue with perchlorate if the sewer lines were to leak or breach. Ms. LaPat-Polasko explained that the potential exposure would be minimal compared to anything else. Joel Wade, representative with the City of Goodyear, explained there are emergency procedures that would shut the system down.

One audience member asked what microbes were shown to be consuming the perchlorate. Ms. LaPat-Polasko stated that there is not one specific microbe. There are many different

microbes capable of reducing the perchlorate.

One CAG member asked if there are any negative outcomes of treating the perchlorate this way. The microorganisms will begin to die after consuming the perchlorate. There are no residuals except for chloride salts. Mr. Wade explained how the normal treatment process works. Carbon and oxygen break down the organic matter. The removal of nitrates is part of the treatment process. Nitrates are removed by the microbes. The microbes are starved of oxygen so that they consume the nitrates. They use up the oxygen molecule that the nitrates give off for food. The same principles are being used to treat the perchlorate. The nitrates are removed before the perchlorate is treated.

One CAG member asked if there was any information to show perchlorate occurs naturally. Ms. Benner stated that naturally-occurring perchlorate was imported from Chile for use in the manufacturing of explosives. There has been no research on the geology to indicate perchlorate could be naturally-occurring in the Phoenix area.

Ms. Benner stated that none of the City of Goodyear supply wells have concentrations above standards. Ms. Benner stated that it will take a long time to see the full picture of the Subunit-C contamination.

5. *Call to the Public*

There were no call to the public questions during this time.

6. *Future Meetings Plans*

The next CAG meeting date was set for April 23, 2003. Location to be determined.

*A copy of this presentation is available by contacting Tina Wesoloskie at (602) 771-4238.